ENCLOSURE 1

Commonwealth of Virginia
Department of Environmental Quality

Request for Redesignation To Attainment For The Richmond-Petersburg Nonattainment Area Consisting Of The Cities of Petersburg, Colonial Heights, Hopewell, and Richmond, and The Counties of Prince George, Chesterfield, Hanover, Henrico, and Charles City

Final

SEPTEMBER 15, 2006

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Commonwealth of Virginia

Request for the Redesignation of the Richmond-Petersburg 8-hour Ozone Nonattainment Area to Attainment

1. Introduction

Based on an analysis of air quality monitoring data, source emission reduction information, and the existing federal and state regulatory programs, the Commonwealth of Virginia has determined that the Richmond-Petersburg 8-hour ozone nonattainment area qualifies for redesignation to attainment. The maintenance plan, which includes a mobile source budget, has also been developed in order for the acceptable ozone levels to continue. Technical information and more detail on emission calculations may be found in the Technical Support Document.

The primary goals of the federal Clean Air Act are the attainment and maintenance of the National Ambient Air Quality Standards (NAAQS) and the prevention of significant deterioration of air quality in areas cleaner than the NAAQS.

The NAAQS, developed and promulgated by the U.S. Environmental Protection Agency (EPA), establish the maximum limits of pollutants that are allowed in the outside ambient air. EPA requires that each state submit a plan (called the State Implementation Plan or SIP), including any laws and regulations necessary to enforce the plan, that shows how the air pollution concentrations will be reduced to levels at or below these standards (attainment). Once pollution levels are within the standards, the SIP must also demonstrate how the state will maintain the air pollution concentrations at the reduced levels (maintenance).

A SIP is the key to the state's air quality programs. The Clean Air Act is specific concerning the elements required for an acceptable SIP. No state is required to prepare such a plan; but if it does not, or EPA does not approve a submitted plan, then EPA is empowered to take the necessary actions to attain and maintain the air quality standards.

The initial Virginia SIP submittal was made in 1972; subsequent submittals are revisions to the SIP. Many revisions to the SIP have been made since the original submittal in 1972. Generally, a SIP is revised, as needed, based upon changes in air quality or statutory requirements. For the most part the SIP has worked, and the standards have been attained for most pollutants in most areas. However, attainment of the NAAQS for one pollutant--ozone--has proven problematic. While ozone is needed at the earth's outer atmospheric layer to protect us from the sun's ultraviolet and other harmful rays, excess concentrations at the surface have an adverse effect on animal and plant life. Ozone is formed by a chemical reaction between volatile organic compounds (VOCs) and nitrogen oxides (NO_X) in the presence sunlight. When VOC and NO_X emissions are reduced, ozone is reduced.

Congress enacted the 1977 Amendments to the Clean Air Act in order to address unsuccessful SIPs and areas that had not attained the NAAQS (nonattainment areas). Although SIP revisions submitted pursuant to the requirements of the 1977 amendments did achieve some progress in eliminating nonattainment areas, some areas remained.

In 1990 Congress again enacted Amendments to the Act to address SIP requirements for nonattainment areas. The new Act established a process for evaluating the air quality in each region and identifying and classifying each nonattainment area according to the severity of its air pollution problem, from marginal to extreme, with marginal areas having the least stringent requirements and extreme areas having the most. The Act required EPA, based on the air quality data from each state, to propose geographic boundaries and pollution classification levels for all nonattainment areas to each state's governor. If states disagreed with EPA's proposals, they had the opportunity to propose different boundaries; however, EPA had the authority to make the final decision.

Each state was then obligated to submit a SIP demonstrating how it would attain the NAAQS in each nonattainment area. The Act requires that certain specific control measures be implemented and scheduled reductions be made in each nonattainment area.

2. Previous Planning Requirements

Under the 1-hour ozone standard requirements, the Richmond-Petersburg area was originally designated a moderate nonattainment area. The area's air quality improved, and a redesignation request and maintenance plan were sent to EPA and approved on November 17, 1997. A revision to this maintenance plan was sent to EPA November 20, 2001, and EPA proposed approval for this revision on October 7, 2002. This maintenance plan contained area wide emission caps, mobile source budgets, and contingency measures. Additionally, this maintenance plan needs to be updated and resubmitted approximately 10 years after approval.

Along with this request for approval of an 8-hour maintenance plan for the Richmond-Petersburg area, the Commonwealth is requesting that all portions of the 1-hour maintenance plan be superseded with the requirements listed in this 8-hour maintenance plan. This request includes the removal of the obligation to implement the 1-hour ozone contingency plan upon a violation or exceedence of the 1-hour ozone standard for the Richmond-Petersburg area. Once EPA approves the 8-hour ozone contingency plan, the need for contingency measures will be activated only in the event that a violation of the 8-hour ozone standard occurs at a monitor located in the Richmond-Petersburg monitoring network.

The Commonwealth is also requesting that the area wide emissions caps and mobile source budgets listed in the 1-hour ozone maintenance plan be superseded with the area wide emissions caps and mobile source budgets listed in this 8-hour ozone maintenance plan.

Lastly, the Commonwealth is requesting that EPA approve this 8-hour maintenance plan as meeting the requirements of CAA Section 175(A)b with respect to the 1-hour ozone maintenance plan update.

3. Criteria for Redesignation

3.1. EPA Requirements

The Act also provides a process whereby a state may petition EPA to redesignate a nonattainment area as attainment. The criteria for redesignating a nonattainment area to attainment are as follows:

- EPA must determine that the NAAQS have been attained.
- The applicable implementation plan must be fully approved by EPA under Section 110(k) of the Act.
- EPA must determine that the improvement in air quality is due to permanent and enforceable reductions in emissions.

- The state must meet all applicable requirements for the area under Section 110 and Part D of the Act.

- EPA must fully approve a maintenance plan, including contingency measures, for the area under Section 175A of the Act.

On July 18, 1997, the Environmental Protection Agency (EPA) promulgated the new 8-hour National Ambient Air Quality Standard for ozone. EPA published, on April 30, 2004 (69 FR 23858) a list of nonattainment areas for Virginia that included Northern Virginia, Fredericksburg, Richmond, and Hampton Roads. The Richmond-Petersburg area was classified a moderate nonattainment area based on the 8-hour standard and data from the area's ozone monitoring sites. On September 22, 2004, the Richmond-Petersburg area was reclassified as a marginal nonattainment area based on data submitted by VDEQ to EPA in a reclassification request.

3.2. Virginia's Approach

Redesignation for the Richmond-Petersburg nonattainment area is being pursued because the Commonwealth is able to:

- Provide sufficient evidence that the ozone air quality standard has been attained based on the past three year average of air monitoring data (2003, 2004, and 2005).

- Provide assurances that the SIP has been or will be fully approved by EPA under Section 110(k) of the Act.

- Provide assurances that ozone reductions are attributable to permanent and enforceable measures (such as Tier 2 engine standards) not for temporary reasons (such as an economic downturn or unusually favorable meteorological conditions).

- Meet all applicable requirements for the area under Section 110 and Part D of the Act that are due on the date of the redesignation request.

- Provide an approvable maintenance plan, including contingency measures, for the area under Section 175A of the Act that relies on existing enforceable federal and state control measures to maintain emissions at the 2005 levels.

The following document delineates specific EPA requirements and Virginia's demonstration that it meets the above criteria. A detailed description of the inventories presented in the redesignation request and the maintenance plan is contained in the Technical Support Document. The 10-year maintenance plan is included as a separate document and includes the mobile source budget. EPA requirements described herein are based on EPA policy as set out in the September 4, 1992 EPA memorandum, "Procedures for Processing Requests to Redesignate Areas to Attainment," and the May 10, 1995 EPA memorandum, "Reasonable Further Progress, Attainment Demonstration, and Related Requirements for Ozone Nonattainment Areas Meeting the Ozone National Ambient Air Quality Standard," as well as discussion with EPA's Region III Office - Air Protection Division.

4. Evidence of NAAQS Compliance

4.1. EPA Requirements

The state must provide sufficient evidence that the NAAQS have been attained. For the 8-hour ozone

standard, the average of three years of data for the annual fourth highest monitored 8-hour value must show compliance with the standard. In making the demonstration, ambient air quality data, which is the product of ambient monitoring representative of the area of highest concentration, should be used. The data should be collected and quality-assured in accordance with 40 CFR Part 58, and recorded in the EPA Aerometric Information Retrieval System (AIRS) in order for it to be available to the public for review. EPA will verify that the integrity of the air quality monitoring network has been preserved. Finally, monitors must meet all valid data collection criteria.

4.2. Virginia's Approach

Following EPA guidance, three years of ozone air quality monitoring data were selected for analysis: 2003, 2004, and 2005. The Hanover County monitoring site had the highest three-year average of the fourth highest daily maximum ozone 8-hour averages and is therefore used to make air quality determinations. Table 4.2-1 shows the fourth highest 8-hour average for each of the three years for all monitors in the area as well as the three year average for each monitor. These data are:

- The product of ambient monitoring representative of the area of highest concentration,
- Collected and quality-assured in accordance with 40 CFR 58,
- Recorded in AIRS, and
- In compliance with all valid data collection criteria.

The area is in compliance with the NAAQS for ozone and meets this EPA criterion for redesignation since the three year average from 2003 through 2005 does not exceed the ozone limit.

TABLE 4.2-1
Richmond-Petersburg Area Fourth Highest 8-hour Average Values

Monitor	AIRS ID #	2003	2004	2005	3-Year Average
Chesterfield County	510410004	79 ppb	75 ppb	78 ppb	**77 ppb**
Henrico County	510870014	83 ppb	74 ppb	84 ppb	**80 ppb**
Hanover County	510850003	86 ppb	78 ppb	83 ppb	**82 ppb**
Charles City County	510360002	79 ppb	77 ppb	83 ppb	**79 ppb**

SOURCE: Virginia Department of Environmental Quality (DEQ) 2006 Richmond, VA: DEQ, Monitoring Division

5. Full SIP Approval

5.1. EPA Requirements

The state must provide assurances that the applicable implementation plan has been fully approved by EPA under § 110(k) and must satisfy all requirements that apply to the area. Approval action on SIP elements and the redesignation request may occur simultaneously. An area cannot be redesignated if a required element of its plan is the subject of a disapproval; a finding of failure to submit or to implement the SIP; or partial, conditional, or limited approval. This does not mean that earlier issues with regard to the SIP will be reopened.

5.2. Virginia's Approach

Most of the Richmond-Petersburg area was subject to federal ozone requirements under the 1-hour standard. The cities of Richmond, Hopewell, and Colonial Heights as well as the counties of Chesterfield, Hanover, Henrico, and the western portion of Charles City were maintenance areas under the 1-hour ozone standard. These areas have been subject to SIP submittals for the 1-hour ozone ambient air quality standard. The eastern portion of Charles City County, Prince George County, and the city of Petersburg were added to create the 8-hour Richmond-Petersburg nonattainment area. These areas were in attainment with the 1-hour standard and therefore had no requirements under that ambient air quality standard. The applicable implementation plan has been fully approved by EPA under § 110(k) of the federal Clean Air Act for the most part; however, some submittals are not approved. The submittals fall into two general categories as explained below. These submittals meet EPA criteria for approval. If EPA takes action within the time frames cited in the Act, the approval of the submittals should be complete and final by the time that this redesignation request has been analyzed and approved by EPA, thus making this redesignation criterion complete.

5.2.1. Pre-1990 Amendments Submittals

- A major recodification of the regulations submitted in 1985.
- Enforceable documents defining reasonably available control technology (RACT) for major sources (100 tons per year and greater) of VOCs for which RACT was not defined in an EPA-issued control technology guideline (CTG) were issued as follows.

Source name	Permit/order or Registration No.	State Effective Date	EPA Approval Date	40 CFR Part 52 Citation
Reynolds Metals, Rolling Mill	DSE-597-87	9/30/87	8/20/90, 55 FR 33904	52.2465(c)(92)
Reynolds Metals, Bellwood	DSE-413A-86	10/31/86	6/13/96 61 FR 29963	52.2465(c)(110)
Reynolds Metals, Richmond Foil	DSE-412A-86	10/31/86	6/13/96, 61 FR 29963	52.2465(c)(110)
Philip Morris, Blended Leaf	50080	2/27/86	10/14/97, 62 FR 53277	52.2465(c)(120)

5.2.2. Post-1990 Amendments Submittals

The submittals that fall in this category consist of those made to meet specific requirements of the 1990

Amendments.

5.2.2.1. Post-1990 amendment submittals that have been approved by EPA into the SIP

Regulatory

- Corrections to existing regulatory program requiring controls for certain source types for which EPA has defined reasonably available control technology in guideline documents: submitted to EPA May 10, 1991; final EPA approval March 31, 1994.

- Requirement for vapor recovery controls for emissions from filling vehicles with gasoline (Stage II): submitted to EPA November 5, 1992; final EPA approval June 23, 1994.

- Requirement for annual statements of emissions from industries and businesses: submitted to EPA November 4, 1992; final EPA approval May 2, 1995.

- Regulations to enforce certain VOC control measures in support of the 15% rate of progress plan: submitted to EPA April 22, 1996; final EPA approval March 12, 1997.

- Open burning: submitted to EPA April 26, 1996; final EPA approval March 12, 1997.

- Procedures to determine if federally financed projects are in conformity with air quality plans (general conformity): submitted to EPA January 27, 1997; final EPA approval October 21, 1997.

- Clean fuel fleets: submitted to EPA May 1, 1996, withdrawn and NLEV substituted May 27, 1999, final EPA approval December 28, 1999.

- Requirement for permits for new and expanding major industries with provisions for meeting a specific offset ratio for reducing existing emissions and compliance with the lowest achievable emission rate: submitted to EPA November 9, 1992, final EPA approval September 21, 1999; amendments submitted June 7, 1999, final EPA approval April 21, 2000.

- Controls for all major sources of VOCs not covered by the guideline documents for which EPA has defined reasonably available control technology: submitted to EPA November 6, 1992, final EPA approval March 12, 1997; amendments submitted April 22, 1996, final EPA approval March 12, 1997; amendments submitted February 4, 2004, final EPA approval August 9, 2004.

Plans

- Comprehensive inventory of emissions: Virginia's emissions inventory is updated and approved by EPA annually.

- NO_X RACT Waiver: submitted to EPA December 18, 1995; final EPA approval July 21, 1997.

- 15% rate-of-progress plan: submitted to EPA December 1, 1994; withdrawn September 5, 1996 in order to pursue resignation request (see bullets below).

- Attainment plan: submitted to EPA May 15, 1995; withdrawn September 5, 1996 in order to pursue redesignation request (see bullets below).

- Redesignation request and maintenance plan: submitted to EPA July 26, 1996; final EPA approval November 17, 1997.

- Mobile emissions budget for redesignation request and maintenance plan: submitted to EPA July 30, 1996; final EPA approval November 17, 1997.

Other

- Photochemical assessment monitoring stations (PAMS): submitted to EPA November 15, 1994; final EPA approval September 11, 1995.

- Enforceable documents defining non-CTG RACT for major sources of VOCs were issued as follows.

Source Name	Permit/Order or Registration No.	State Effective Date	EPA Approval Date	40 CFR Part 52 Citation
Hercules, Aqualon Division	50363	9/26/90	11/1/91 56 FR 56159	52.2465(c)(93)
Nabisco	DTE-179-91	4/24/91	3/6/92, 57 FR 8080	52.2465(c)(95)
Philip Morris, Park 500	50722	3/26/97	10/14/97, 62 FR 53277	52.2465(c)(120)
Philip Morris, Richmond Manufacturing Center	50076	7/13/96	10/14/97, 62 FR 53277	52.2465(c)(120)
Virginia Electric and Power	50396	5/30/96	10/14/97, 62 FR 53277	52.2465(c)(120)
Hercules, Aqualon Division	V-0163-96	7/12/96	10/14/97, 62 FR 53277	52.2465(c)(120)
City of Hopewell Regional Wastewater Treatment Facility	50735	5/30/96	10/14/97, 62 FR 53277	52.2465(c)(120)
Allied Signal, Hopewell	50232	3/26/97	10/14/97, 62 FR 53277	52.2465(c)(121)
Allied Signal, Chesterfield	V-0114-96	5/20/96	10/14/97, 62 FR 53277	52.2465(c)(121)
Bear Island Paper	V-0135-96	7/12/96	10/14/97, 62 FR 53277	52.2465(c)(121)
Stone Container, Hopewell	50370	5/30/96	10/14/97, 62 FR 53277	52.2465(c)(121)
DuPont, Spruance	V-0117-96	5/30/96	10/14/97, 62 FR 53277	52.2465(c)(121)

Source Name	Permit/Order or Registration No.	State Effective Date	EPA Approval Date	40 CFR Part 52 Citation
ICI Americas, Films Division, Hopewell	50418	5/30/96	10/14/97, 62 FR 53277	52.2465(c)(121)

5.2.2.2. Post-1990 amendment submittals currently in process

These submittals meet EPA criteria for approval. If EPA takes action within the time frames cited in the Act, the approval of the submittals should be complete and final by the time that this redesignation request has been analyzed and approved by EPA, thus making this redesignation criterion complete.

Regulatory

- Procedures to determine if systems level highway plans and other federally financed projects are in conformity with air quality plans (transportation conformity): submitted to EPA January 20, 1997; deemed complete by operation. EPA has not taken action on this submittal. In the meantime, EPA has promulgated changes to the transportation conformity regulations; Virginia is in the process of incorporating these changes to the state regulation. Pending EPA approval of the state regulation, Virginia will continue to make transportation conformity determinations under the provisions of 40 CFR Part 93, subpart A.

- Requirement for permits for new and expanding major industries with provisions for meeting a specific offset ratio for reducing existing emissions and compliance with the lowest achievable emission rate: submitted to EPA December 16, 2003, EPA completeness determination February 13, 2004, final EPA approval pending.

- Rules covering annual emissions statements from VOC sources and VOC emission standards for existing stationary sources have been expanded into the Richmond VOC Emissions Control Area to include those localities in the corresponding new 8-hour ozone nonattainment areas that were not previously listed: submitted to EPA September 12, 2006.

Plans – Maintenance plan revision submitted to EPA November 20, 2001; proposed EPA approval October 7, 2002, final EPA approval pending.

6. Demonstration of Permanent and Enforceable Improvement

6.1. EPA Requirements

The state must be able to reasonably attribute its air quality improvements to emission reductions which are permanent and enforceable. Attainment resulting from temporary reductions in emission rates (such as reduced production or shutdown due to temporary adverse economic conditions) or unusually favorable meteorological conditions does not qualify.

In making this showing, the state should estimate the percent reduction (from the year that was used to determine the design value for designation and classification) achieved from federal and state measures. Estimates should consider factors such as emission rates and production capacities in order to show that the improvements are the result of implemented controls. The analysis should assume that sources are operating at permitted levels (or historic peak levels), unless evidence is presented that such an assumption is unrealistic.

6.2. Virginia's Approach

Between 2002 and 2005, VOC emissions were reduced by 4.6 tons per day, NO_X emissions were reduced by 51 tons per day, and CO emissions were reduced by 109 tons per day because of permanent and enforceable measures implemented by the Commonwealth and the federal government (see Table 6.2-1). Some of these reductions are the result of mobile source emission controls, specifically, those obtained from the National Low Emission Vehicle (NLEV) and Tier I programs. These mobile programs produced 6.7 tons/day of VOC reductions, 7.0 tons/day of NO_X reductions, and 128.5 tons/day of CO reductions. However, some of these reductions served to offset emission increases in the other categories.

In the point source category, three coal fired utility boilers located in Chesterfield County at the Dominion Chesterfield Power Station, registration number 50396, were retrofitted between 2002 and 2005 with selective catalytic reduction (SCR) technology for the control of NO_X. These units were retrofitted for a number of reasons. A federal consent order required the installation of three SCR units, one each on units 4, 5, and 6 at this facility, starting in the year 2011. These units also have, as an applicable requirement, the NOx Budget Trading Program that took effect in 2004 so that the early installation of the required SCR units allowed the facility to more easily comply with this regulation. These units will be subject to the Clean Air Interstate Rule (CAIR) beginning in 2009. These controls resulted in the reduction of approximately 39 tons/day of NOx between 2002 and 2005 from this facility.

It should be noted that due to the NOx Budget Trading Program, and in future years the CAIR program, this area can reasonably expect to indirectly benefit in terms of improved regional air quality from less pollution being transported long distances.

These mobile source reductions were determined using MOBILE6.2 (EPA's mobile source emissions inventory model) and vehicle miles traveled data from the Virginia Department of Transportation. In all categories, reductions due to decreases in production levels or from unenforceable, voluntary controls were not included. The reduction estimates considered factors such as emission rates and production capacities in order to show that the improvements were the result of implemented controls, and assumed that sources operated at permitted levels. A detailed inventory description is contained in the Technical Support Document.

Table 6.2-1.
Total VOC, NO_X, and CO Emissions for 2002 and 2005

Volatile Organic Compounds (VOC)					
Year	Point	Area[1]	Nonroad	Mobile	Total
Year 2002	31.228	51.364	23.278	50.200	156.070
Year 2005	32.705	54.760	20.438	43.518	151.421
DIFF. (02-05)	1.477	3.396	-2.840	-6.682	-4.649
Nitrogen Oxides (NO_X)					
Year	Point	Area	Nonroad	Mobile	Total
Year 2002	119.750	27.067	17.792	74.130	238.739
Year 2005	77.281	26.501	16.862	67.155	187.799
DIFF. (02-05)	-42.469	-0.566	-0.930	-6.975	-50.940
Carbon Monoxide (CO)					
YEAR	Point	Area	Nonroad	Mobile	Total
Year 2002	22.550	38.245	268.606	638.216	967.617
Year 2005	23.385	39.548	285.780	509.681	858.394
DIFF. (02-05)	0.830	1.303	17.174	-128.535	-109.228

[1] Area source category includes emissions from motor vehicle refueling.

7. Section 110(a)(2) and Part D Requirements

7.1. EPA Requirements

The state must meet all requirements of § 110(a)(2) and Part D that were applicable prior to submission of the complete redesignation request. When evaluating a redesignation request, EPA will not consider whether the state has met requirements that come due under the Clean Air Act after submittal of a complete redesignation request, although under § 175A(c), the requirements of Part D remain in force and in effect for the area until it is redesignated. Any requirements that came due prior to the submittal must be fully approved into the plan at or before the time EPA redesignates the area. § 172(c) requirements, which are general requirements for nonattainment plans, must be met, as well. The state must also show that its SIP provisions are consistent with § 176(c)(4) conformity requirements. If a state does not have conformity procedures in place at the time it submits a redesignation request, it must commit to follow EPA's conformity regulation upon issuance.

7.2. Virginia's Approach

Of the localities that make up the Richmond-Petersburg Nonattainment Area, all cities and counties have been subject to federal ozone requirements with the exception of Prince George County, the city of Petersburg, and the eastern portion of Charles City County. These three areas were not considered to be part of the 1-hour ozone moderate nonattainment area and were not subject to § 110(a)(2) and Part D requirements for 1-hour ozone nonattainment areas. In addition, certain control measures that were developed to bring the 1-hour ozone moderate nonattainment area into compliance with the federal ozone standard at that time will continue to apply to Hopewell, Colonial Heights, Richmond, Hanover, Henrico, Chesterfield, and western Charles City County. The state meets the § 110(a)(2) and Part D requirements that were applicable prior to redesignation submittal. Many of these requirements overlap or are identical. Specific information on submittal dates and EPA approval status is provided in Section 5.2.

7.2.1. Section 110(a)(2)

The state has prepared and submitted SIP revisions or made commitments which meet the requirements of § 110(a)(2) of the Act. Key elements of the submittals are as follows:

- Enforceable emissions limitations and other control measures needed to meet Clean Air Act requirements.
- Monitoring, compiling, and analyzing ambient air quality.
- Preconstruction review of new stationary sources and expansions to existing ones.
- Adequate funding, staff, and implementation of SIP programs.
- Stationary source emissions monitoring and reporting.

7.2.2. Part D

The state has also prepared and submitted SIP revisions which meet the requirements of Part D of the Act. Key elements of the Part D submittals are contained in Subpart 1 (Nonattainment Areas in General) and Subpart 2 (Additional Provisions for Ozone Nonattainment Areas), and are described below.

Subpart 1

Section 172(c), Nonattainment Plan Provisions, has been met by the SIP, as its requirements (such as demonstration of reasonable further progress and identification of pollutants to be allowed from new stationary sources) are identical to those found in § 110(a)(2) and Part D. Key § 172(c) requirements are as follows:

- Provisions for implementation of all reasonably available control measures.
- Demonstration of reasonable further progress.
- Comprehensive inventory of emissions.
- Identification and quantification of new source emissions.

- Permits for new and modified sources.
- Enforceable emissions limitations.
- Contingency measures.

Section 173(a) contains requirements for issuing permits, including offsets and the application of the lowest achievable emission rate (LAER).

Section 176 requires the state to develop transportation and general conformity procedures to be submitted as a SIP revision.

Subpart 2

The specific requirements of §§ 182(a) through (d) have been met by the SIP. These sections require that certain specific control measures and other requirements be adopted and included in the SIP. A list of those that necessitated the adoption of state regulations is provided below. In addition, for moderate and above nonattainment areas, the state had to demonstrate that it would achieve a VOC emission reduction of 15%. Finally, for moderate and above nonattainment areas, the SIP had to include an attainment demonstration by photochemical modeling in addition to the 15% emission reduction demonstration. In cases where the specific control measures shown below were inadequate to achieve the emission reductions or attain the air quality standard, the state was obligated to adopt other control measures as necessary to achieve this end.

§ 182(a) (all areas)

- Correct existing VOC regulatory program (controls on certain sources identified in EPA control technology guidelines).
- Requirement for annual statements of emissions from industries.
- Preconstruction review (permit) program for new industry and expansions (with variable major source definition, variable offset ratio for addition of new pollution, and special requirements for expansions to existing industry in serious areas).
- Offset ratio for addition of new pollution of 1.1 to 1.
- Procedures to determine if systems level highway plans and other federally financed projects are in conformity with air quality plans.

§ 182(b) (moderate and above areas)

- Requirement for controls for all VOC sources identified in EPA control technology guidelines.
- Case by case control technology determinations for all major VOC and NO_X sources not covered by a EPA control technology guideline.
- Requirement for controls for all major (100 tons per year) VOC sources.
- Requirement for controls for all major (100 tons per year) NO_X sources.
- Offset ratio for addition of new pollution of 1.15 to 1

- Requirement for vapor recovery controls for emissions from filling vehicles with gasoline (Stage II).
- Basic motor vehicle emissions inspection and maintenance (I/M) program.

§ 182(c) (serious and above areas)

- Requirement for controls for all major (50 tons per year) VOC sources.
- Requirement for controls for all major (50 tons per year) NO_X sources.
- Offset ratio for addition of new pollution of 1.2 to 1.
- Enhanced monitoring (source emissions) program.
- Correct existing motor vehicle emissions I/M program.
- Enhanced motor vehicle emissions I/M program.
- Clean fuel fleet vehicle program.
- Oxygenated fuels program.

§ 182(d) (severe and above areas)

- Requirement for controls for all major (25 tons per year) VOC sources.
- Requirement for controls for all major (25 tons per year) NO_X sources.
- Offset ratio for addition of new pollution of 1.3 to 1.
- Requirement for major sources to pay a penalty fee if area does not attain air quality standard by attainment date.
- Transportation control strategies and measures to offset emissions growth from VMT.

8. Develop a Maintenance Plan

8.1. EPA Requirements

Section 107(d)(3)(E) stipulates that for an area to be redesignated, EPA must fully approve a maintenance plan that meets the requirements of Section 175A. A state may submit both the redesignation request and the maintenance plan at the same time, and rulemaking on both may proceed on a parallel track. All applicable nonattainment area requirements remain in place. The maintenance plan constitutes a SIP revision, and must provide for maintenance of the relevant NAAQS in the area for at least 10 years after redesignation, including additional measures to ensure prompt correction of any violation of the NAAQS. The state must also submit a SIP revision 8 years after the original redesignation request is approved to provide for maintenance of the NAAQS for an additional 10 years following the first 10-year period.

EPA requires the following provisions to ensure maintenance of the NAAQS:

- The state must develop an attainment emissions inventory to identify the level of emissions in the area which is sufficient to attain the NAAQS.

- A state may generally demonstrate maintenance by showing that future emissions of a pollutant or its precursors will not exceed the level of the attainment inventory over the 10-year period following redesignation.

- Once an area has been redesignated, the state must continue to operate an appropriate air quality monitoring network in order to verify the area's attainment status.

- The state must ensure that it has the legal authority to implement and enforce all measures necessary to attain and maintain the NAAQS. Continued attainment must be verified by the state by indicating how maintenance plan progress will be tracked.

- Contingency measures must be available to promptly correct any NAAQS violation.

8.2. Virginia's Approach

Virginia has developed a maintenance plan that meets all EPA requirements and demonstrates that, because of permanent and enforceable measures, emissions over the 10 years following redesignation approval will remain within the regional emissions budget while allowing for growth in population and vehicle miles traveled. The period covered by this maintenance plan is 2005-2018.

The state has developed an emissions inventory in accordance with EPA guidance that identifies the level of emissions sufficient to achieve the NAAQS. The attainment inventory consists of the actual emissions for the year during the three-year period associated with the monitoring data showing attainment of the ozone standard, that is, 2005. The plan includes a demonstration that emissions will remain within the 2005 levels for a 10-year period by keeping in place key elements of the current federal and state regulatory programs and expanding certain other programs into the city of Petersburg, Prince George County, and the eastern portion of Charles City County. The programs which are currently in effect are as follows:

- The National Low Emission Vehicle (NLEV) program;
- Open burning restrictions for Richmond, Hopewell, Colonial Heights, Hanover, Henrico, Chesterfield, and western Charles City;
- Control Technology Guideline (CTG) Reasonably Available Control Technology (RACT) requirements for Richmond, Hopewell, Colonial Heights, Hanover, Henrico, Chesterfield, and western Charles City;
- Non-CTG VOC RACT requirements for Richmond, Hopewell, Colonial Heights, Hanover, Henrico, Chesterfield, and western Charles City;
- Reformulated gasoline requirements for Richmond, Hopewell, Colonial Heights, Hanover, Henrico, Chesterfield, and western Charles City;
- Motor vehicle fleet turnover with new vehicles meeting the Tier 2 standards; and
- Low sulfur gasoline.

Additionally, the following programs are in place and either effective or are due to become effective:

- Heavy duty diesel on road (2004/2007) and non-road emissions standards (2008); and
- Low sulfur on-road (2006) and off-road diesel fuel (2007/2010);

Lastly, to further improve air quality and to provide room for industrial and population growth while maintaining emissions in the area to less than 2005 levels, the Commonwealth of Virginia has initiated rulemaking to implement the following programs:

- Implement the Stage I requirements of 9 VAC 5 Chapter 40, Article 37 in Prince George, Petersburg, and eastern Charles City;
- Implement open burning restriction requirements of 9 VAC 5 Chapter 40, Article 40 in Prince George, Petersburg, and eastern Charles City, and
- Implement existing source CTG RACT requirements of 9 VAC 5 Chapter 40, Articles 5-6, 24-36, and 39 in Prince George, Petersburg, and eastern Charles City

The schedule for implementation of these measures is as follows:

- For Stage I and the CTG RACT requirements, VDEQ requested approval from the Virginia State Air Pollution Control Board to promulgate these regulatory changes for public comment in June of 2005. For open burning, VDEQ requested approval from the Virginia State Air Pollution Control board to promulgate these regulatory changes for public comment in March of 2005.
- VDEQ initiated public participation requirements in November of 2005.
- VDEQ requested final approval from the State Air Pollution Control Board to adopt these regulatory changes in June of 2006.
- Upon completion of executive review, the regulatory changes will become effective. Completion of executive review is expected to happen in December of 2006.

Virginia will also continue to operate and maintain its air quality monitoring network. The Commonwealth of Virginia has the legal authority to implement and enforce specified measures necessary to attain and maintain the NAAQS.

In addition to maintaining key elements of its regulatory program in place, the state will acquire air quality and source emissions data to track attainment and maintenance. The maintenance plan includes contingency measures, as necessary, to promptly correct any NAAQS violation that occurs after redesignation of the area. These include implementing one or more area source VOC control measures and implementing non-CTG NO_X RACTS.